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David Betounes*, Dept of Math & CS, Univ. of Texas, Permian Basin, 4901 E. University Blvd., Odessa, TX 79761. *The Geometry of Space-Time-Matter*.

We formulate a global, differential geometric structure for the space-time-matter theory introduced by Wesson and coworkers. In addition to giving a coordinate-free, intrinsic approach to the theory, we extend the discussion from 5-dimensions to arbitrary dimensions.

Our model for space-time-matter is a Ricci flat, semi-Riemannian manifold (E, \bar{g}) , where E is a fiber bundle over M (the spacetime) and \bar{g} is a Kaluza-Klein metric on E . Each space-time-matter manifold (E, \bar{g}) generates spacetimes (M, \tilde{g}) , one for each embedding of M in E , with stress-energy tensor for M determined by the geometry of E and the nature of the embedding. (Received August 30, 2014)